

IN THE SUPREME COURT OF THE STATE OF DELAWARE

VICTOR RODRIGUEZ,	§	
	§	No. 603, 2010
Defendant Below-	§	
Appellant,	§	Court Below: Superior Court
	§	of the State of Delaware in and
v.	§	for Sussex County
	§	
STATE OF DELAWARE,	§	ID No. 0904025840
	§	
Plaintiff Below-	§	
Appellee.	§	

Submitted: September 14, 2011

Decided: November 8, 2011

Before **STEELE**, Chief Justice, **HOLLAND**, and **RIDGELY**, Justices.

Upon appeal from the Superior Court. **AFFIRMED**.

Santino Ceccotti, Esquire, of the Office of the Public Defender, Wilmington, Delaware for Appellant.

Abby Adams, Esquire, of the Department of Justice, Georgetown, Delaware for Appellee.

RIDGELY, Justice:

Defendant-Below/Appellant, Victor Rodriguez, appeals from his convictions in Superior Court for Reckless Burning, Burglary in the Third Degree, two counts of Criminal Trespass in the Third Degree, and three counts of Arson in the Second Degree. At issue is the trial judge's decision allowing a latent fingerprint examiner, who had also been trained in tire track and shoeprint analyses, to testify as an expert that boot and tire tracks at arson scenes were consistent with Rodriguez's boot and the tire on his mountain bike. The trial judge found the examiner to be qualified by his knowledge, skill, training, experience or education under Rule 702 of the Delaware Rules of Evidence. We find no abuse of discretion and affirm.

Facts

On April 13, 2009, at approximately 5:30 a.m., the Milford Fire Company responded to a fire reported at the Hampton Inn. Heavy flames were consuming the first floor and extending to the second and third floors. Approximately twenty-five fire engines and one hundred firefighters were called to the scene. Assistant Chief Fire Marshall Richard Ward determined that the Hampton Inn fire had been set deliberately.

That same morning, at approximately 4:10 a.m., authorities responded to a house fire at the intersection of Cedar Creek Road and Reynolds Pond Road in

Milton. After investigation, Ward determined that this fire also had been set deliberately.

A Milton police officer leaving the Reynolds Pond fire received a dispatch regarding another house fire, this time at a model home in a new building site called Milton Meadows. The 911 call regarding this fire came in at approximately 4:50 a.m. The officer arrived to find flames rolling out the back of the home and along the siding. After investigation, authorities determined that this fire also had been set deliberately. At the scene of the Milton Meadows fire, Deputy Fire Marshall Harry Miller discovered and photographed two sets of fresh, undisturbed bicycle tracks that led from the road to the area where the fire had originated.

On April 24, 2009, at approximately 3:50 a.m., another fire was reported at the Heritage Creek Development. Responders arrived to find 104 Heritage Boulevard “engulfed in flames.” Shortly after, the house at 102 Heritage Boulevard caught fire. While searching the area for evidence, a fire marshal found a third house fire, at 113 Arch Street.

Investigators found tire tracks and shoeprints in an alleyway between the Heritage Boulevard house and the Arch Street house. Investigators took two castings of the tracks, and Ward took pictures of the track impressions on his cell phone. Tire tracks and shoeprints were also found at the rear of the Arch Street house and by a nearby dumpster.

Investigators determined that the April 13, 2009 fires followed a single line of travel stretching sixteen miles from the Hampton Inn to Milton Meadows. After the fires, investigators canvassed the area for a bicycle with tires that matched the tire tracks found at the Milton Meadows scene. On April 15, Miller found a green mountain bike belonging to Victor Rodriguez outside of Allen Family Foods, a facility located 1.9 miles from Milton Meadows. The width and tread of the bike tires appeared similar to those indicated by the tracks at the Milton Meadows fire.

Rodriguez worked at Allen Family Foods. On April 13, 2009, he clocked in late to work at 4:59 a.m. Rodriguez's roommate testified that Rodriguez used his bike to get around and to work. Investigators calculated the distance between the April 13, 2009 fires, and determined that someone travelling on a bicycle at fifteen miles per hour could have set the three fires and arrived at Allen Family Foods by 5:00 a.m.

On April 23, 2009, Rodriguez was seen riding his bicycle on Route 5, approximately one-half of a mile north of where the Heritage Creek fires would occur one day later. Rodriguez's most direct route from his residence in Milton to Allen Family Foods would have taken him on Route 5 past the Heritage Creek Development. On April 24, 2009, Rodriguez rode his bike to work. He arrived between 4:05 a.m. and 4:10 a.m., and had bags with him. Ward estimated that the

Heritage Boulevard fire had been set that morning between 3:00 and 3:15 a.m. and that the Arch Street fire had been burning since approximately 3:15 a.m.

Based on comparisons of Rodriguez's bike tires to the tire impressions found at the Milton Meadows fire and the Heritage Creek fire, and knowledge of Rodriguez's route of travel between his residence and Allen Family Foods, Deputy Ward decided to charge Rodriguez with setting the fires. Officials awaited Rodriguez at his residence in Milton to arrest him. Rodriguez arrived in a white pickup truck driven by his coworker and roommate. Rodriguez's mountain bike, which had been observed at Allen's earlier that day, was in the back of the truck. Rodriguez was also wearing the same rubber boots he wore for work. Ultimately, the boots and the mountain bike were seized as evidence for later analysis.

During a search of Rodriguez's rented room with his consent, officials found four to seven bags full of newspapers in the room and a laptop computer. No shoes were found. The newspapers appeared to have been discarded by stores and did not appear to have been read. Later investigation of the laptop revealed that, prior to April 23, 2009, a user of Rodriguez's laptop had viewed an April 14, 2009 *Milton Beacon* article describing the Milton fires.

At trial, the State proffered Rodney B. Hegman as an expert whose testimony would connect Rodriguez's bicycle and boots to the tire tracks and shoeprints found at the scenes of the Milton Meadows fire and the April 24 fires.

Rodriguez objected to the presentation of Hegman as an expert and challenged Hegman's qualifications.

During *voir dire* outside the presence of the jury, Hegman testified that he had been a Delaware State Police employee for thirty-five years. Since 1981, he had worked in the Latent Print Section of the State Bureau of Identification. Ninety percent of his cases involved testimony on fingerprints.

Hegman acknowledged that training for fingerprint analysis differed from training for tire track and shoeprint analysis. He explained that in 1981, he completed a Scientific Crime Detection correspondence course through the American Institute of Applied Science, which covered shoeprints. In 1991, he participated in a three-week training from the Federal Bureau of Identification Training Academy at Quantico, Virginia on "Latent Fingerprint Contemporary Approaches." The FBI course focused on "evidence processing, arson investigations, footwear impressions, tire impressions, and ear identification; the use of laser technology and courtroom testimony," so only a portion of the course covered tire tracks and shoeprints. Hegman also testified that he read the first and second editions of "Footwear Impression Evidence" by William Bodziak, a former member of the FBI who Hegman described as "one of the leaders of forensic experts in the country for footwear impressions."

Hegman stated that he had previously testified in Superior Court as an expert in tire print analysis in New Castle and Kent Counties, and as an expert in shoeprint analysis in Sussex County. He also worked recently as a certified instructor for a crime scene investigation class at the Delaware State Police Academy.

On cross examination, Hegman acknowledged that (1) he had not been certified by the FBI with respect to shoeprint and tire track identification; (2) he had no special education or degree regarding shoeprint or tire identification; (3) he did not belong to any professional association regarding shoeprint and tire marks; and (4) he has not authored any papers or books in those specific fields. Hegman also admitted that he was not familiar with how many types of bicycle tracks there are or the companies that make bicycle tires.

At the conclusion of the *voir dire*, defense counsel renewed his objection to Hegman's testimony on grounds that he was not qualified to render an opinion about tire tracks and shoeprints. The trial judge overruled the objection and relevantly explained:

The witness is offering an opinion that the boot and the tire tracks are consistent with, probably made by the boot and bike belonging to the defendant. The witness cannot say it's a match because of the absence of such distinctive characteristics for which such an opinion would be made, by way of example a DNA opinion.

* * *

I am finding that the witness is certainly qualified as an expert by knowledge, skill, training, experience, or education under Delaware Rules of Evidence 702. He has for well over 30 years been involved as a forensic-type examiner, that he has testified many times in the field of fingerprints, and he has also offered opinions on footprint and bicycle comparisons, certainly not as often as the fingerprints but certainly he has done it, been recognized to be an expert by the courts in this State.

From what the witness has testified to, I am satisfied that he has the training and experience to make an opinion. He is even an instructor, and to be an instructor, it just doesn't come to anyone. He has a defined trained eye in making these kind of comparisons that there is the trained eye is a standard way that this is done from his experience that he is applied to other cases as well as this case as well, and that in the field there is a peer review.

I am finding that evidence is otherwise admissible, relevant, and reliable as to the kind of information that should reasonably be relied upon in this profession considering everything that he has shared with us. I don't believe this would create unfair prejudice or mislead the jury. This is fairly similar to the lay opinion offered under Rule 701, and I am finding the probative value of the evidence substantially outweighs the risk of the prejudice under Rule 703.

* * *

Shoeprint testimony satisfied with reliability of doubt or offered testimony comparison of the print required a trained eye. Techniques were generally accepted in the forensic community, and methodology is subject to peer review, and the witness has provided information that satisfies these concerns as well. So all in all, I believe that enough has been raised to have him be admitted as an expert so the defense objection is overruled.

Hegman testified before the jury that investigators brought him casts of footwear and tire impressions, as well as physical evidence in the form of a pair of rubber work boots and two bicycle tires. He "examined the bottom of each boot to

determine or look for any unusual characteristics or individual characteristics that would be unique to each boot.” The only distinctive characteristic or mark on the boots that Hegman could detect was excessive wear on the left boot. He opined that “the impression on the cast was made by a boot similar or almost similar” to Rodriguez’s boot. Hegman also opined that Rodriguez’s bike tire and boots were “consistent” with the prints left in the casting, but not a definitive match.

On cross-examination, defense counsel elicited that ninety percent of Hegman’s work focused on fingerprints, that he had testified only four to five times on tire tracks, that his 1981 class was by correspondence, and that the FBI training class he attended in 1991 also covered other impression evidence. When questioned, Hegman agreed that weight, force, and pace may affect shoeprint analysis. He also agreed that “the condition of the soil, the nature of the soil, and the pressure” could affect the cast made from an impression.

The fire marshals who responded to and investigated the fires also testified at trial. Miller provided a lay opinion that the tire tracks he found at Milton Meadows appeared similar to the tread of Rodriguez’s bike tires. Rodriguez did not testify.

Rodriguez moved for a judgment of acquittal on three counts of arson and two counts of trespass, all of which related to the April 13, 2009 fires. The trial judge granted the motion as to two counts of arson and one count of trespass

relating to the Hampton Inn fire and the Reynolds Pond Road fire, in part because there was nothing to identify Rodriguez as present at the scenes of those fires. The trial judge denied the motion in all other respects.

Rodriguez presented one alibi witness at trial and also argued there was insufficient evidence to convict him. He did not testify. The jury found Rodriguez guilty of Reckless Burning, Burglary in the Third Degree, two counts of Criminal Trespass in the Third Degree, and three counts of Arson in the Second Degree.

After a presentence investigation, the trial judge sentenced Rodriguez as an habitual offender. On each of the arson convictions he was sentenced to life imprisonment. This appeal followed.

Discussion

Rodriguez contends that the trial judge committed reversible error by allowing Hegman to testify as an expert in tire track and shoeprint analysis. Rodriguez argues that tire track and shoeprint analysis are part of a “separate and distinct forensic science discipline” as compared to fingerprint analysis and that “as experienced as Hegman may be in many aspects of fingerprint analysis, he was not qualified to be an expert in the field of footprint and tire track identification.” Rodriguez also challenges the trial judge’s description of Hegman as having a “trained eye.”

Delaware Rule of Evidence 702 governs the admission of expert witness testimony. “If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education may testify thereto in the form of an opinion or otherwise.”¹ We have adopted the interpretation of Rule 702 set forth by the United States Supreme Court in *Daubert* and *Kumho Tire* for Federal Rule of Evidence 702.² Thus, we recognize that the trial judge has a responsibility to “ensure that any and all scientific testimony . . . is not only relevant, but reliable.”³ *Daubert* identified four factors that the trial judge may consider in exercising this gatekeeping function: “testing, peer review, error rates, and ‘acceptability’ in the relevant scientific community.”⁴

The purpose of the trial judge’s gatekeeping role “is to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.”⁵ When the foundation of an expert’s opinion is challenged, the trial judge must decide if the expert’s testimony “has a

¹ D.R.E. 702.

² See *M.G. Bancorporation v. Le Baue*, 737 A.2d 513, 522 (Del. 1999).

³ *Id.* at 521 (citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589, 113 S. Ct. 2786 (1993)).

⁴ *M.G. Bancorporation v. Le Baue*, 737 A.2d at 521 (quoting *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. at 593–94, 113 S. Ct. 2786)).

⁵ *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 152, 119 S. Ct. 1167 (1999).

reliable basis in the knowledge and experience of [the relevant] discipline.”⁶ We review a trial judge’s decision to admit expert testimony for abuse of discretion “because trial judges, as gatekeepers, ‘must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable.’”⁷

Here, the record shows that Hegman participated in an FBI course of instruction that covered tire track and shoeprint analysis, independently studied a leading treatise on the discipline, and previously testified on the analysis of tire tracks and shoeprints in Delaware courts. Hegman also demonstrated knowledge of the variables that could affect impressions, including the type of surface and degree of tire inflation.

Rodriguez relies upon *Reynolds v. State*⁸ to support his argument that Hegman’s qualifications were insufficient. In *Reynolds*, this Court held that a chief investigating officer could not testify as a fingerprint expert where the officer had never worked with fingerprints or classified them and cross-examination of the officer “demonstrated scant knowledge at best.”⁹ *Reynolds* is distinguishable. Unlike the witness in *Reynolds*, Hegman had both training and actual field

⁶ *M.G. Bancorporation, Inc. v. Le Beau*, 737 A.2d 513, 523 (Del. 1999) (quoting *Daubert*, 509 U.S. at 589, 113 S. Ct. 2786)).

⁷ *Rivera v. State*, 7 A.3d 961, 972 (Del. 2010) (quoting *Garden v. State*, 815 A.2d 327, 338 (Del. 2003)).

⁸ 424 A.2d 6 (Del. 1980).

⁹ *Id.* at 8.

experience in tire track and shoeprint analysis, demonstrated his knowledge of the variables that would affect the creation of impression evidence, and he had testified as an expert before on both tire track and shoeprint analysis.

Moreover, Hegman's expertise in fingerprint analysis was relevant to his experience with impression evidence. While tire track and shoeprint analysis may be viewed as a distinct forensic discipline from fingerprint analysis because it involves mass-produced items, the analytic process is similar. Specifically, tire tracks, shoeprints, and fingerprints are all forms of impression evidence.¹⁰ Forensic analysis of fingerprints "consists of experience-based comparisons of impressions left by the ridge structures" of hand surfaces.¹¹ Tire track and shoeprint analysis, like fingerprint analysis, seeks to identify the source of the impression by identifying and comparing particular characteristics.¹² Hegman compared castings of the tracks and prints found at the fires to direct physical evidence: Rodriguez's boots and bike tires. He explained his process of measuring and then comparing specific characteristics between the impressions and the physical evidence. Thus, while Hegman's substantial experience in fingerprint analysis does not alone support his admission as an expert in other forms of

¹⁰ See Hon. Donald E. Shelton, *Forensic Science in Court: Challenges in the Twenty-First Century*, at 40 (2011); National Research Council of the National Academies, *Strengthening Forensic Science in the United States: A Path Forward*, at 136, 145 (2009) ("NAS Report").

¹¹ NAS Report, at 136.

¹² NAS Report, at 146.

impression analysis, the trial judge did not abuse his discretion in considering that experience and training as relevant.

Finally, the defense had the opportunity to cross-examine Hegman on the stand regarding his background, experience, and methodological approach. “Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”¹³ “Like expert witnesses generally, an analyst’s lack of proper training or deficiency in judgment may be disclosed in cross-examination.”¹⁴ By probing Hegman on his particular experience in tire track and shoeprint analysis, defense counsel challenged his credibility before the jury and the weight to be given the impression evidence. Once Hegman had been qualified under Rule 702 and his testimony met the threshold for admissibility, it was for the jury to determine the weight to be given his testimony.

We find no abuse of discretion by the trial judge in finding Hegman qualified as an expert in tire track and shoeprint analyses by knowledge, skill, training, experience or education under Rule 702 of the Delaware Rules of

¹³ *Daubert*, 509 U.S. at 595–96.

¹⁴ *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527, 2537 & n.6 (U.S. 2009) (rejecting suggestion that forensic evidence is uniquely reliable and cross-examination of forensic analysts futile).

Evidence. This conclusion is also consistent with that of other jurisdictions addressing the admissibility of expert testimony regarding impression evidence.¹⁵

Conclusion

The judgment of the Superior Court is **AFFIRMED**.

¹⁵ See *Wade v. State*, 490 N.E.2d 1097, 1104–05 (Ind. 1986) (holding that trial court did not abuse its discretion in qualifying witness as expert in shoeprint identification where witness was “assigned to laboratory work on ‘trace evidence,’ including physical comparisons”); *Commonwealth v. Cortez*, 777 N.E.2d 1254, 1258 (Mass. 2002) (holding trial court did abuse its discretion in allowing officer to provide expert testimony that shoeprints found at scene were “consistent with” defendant’s shoeprints where officer was recognized as fingerprint expert, and had received training and testified as an expert in shoeprint analysis); *Doisher v. State*, 632 P.2d 242, 256 (Alaska Ct. App. 1981) (concluding lab technician with expertise in fingerprint analysis was qualified to testify on shoeprint analysis and stating that “a witness need not devote full time to an area of knowledge in order to qualify as an expert[;] it suffices if the witness has the requisite intelligence and reasonable contact with the subject matter to demonstrate expertise with reasonable skill”); *State v. Jeter*, 609 So.2d 1019, 1022–23 (La. Ct. App. 1992) (holding that trial court did not abuse its discretion in qualifying witness as expert in shoeprint identification where witness worked “for seven years in crime scene detection, which included processing the crime scene, lifting fingerprints, collecting evidence, taking photographs, and other types of analysis such as shoe prints”); *Rodgers v. State*, 205 S.W.3d 525, 533 (Tex. Crim. App. 2006) (finding fingerprint expert qualified in shoeprint and tire track analysis and noting jury’s ability to weigh evidence). See generally E. LeFevre, *Footprints as Evidence*, 35 A.L.R.2d 856 (originally published in 1954); *United States v. Ford*, 481 F.3d 215, 217–21 (3d Cir. 2007).